

**Type 8691**

Control Head

Type 8695

Control Head

Pneumatically operated 2/2 way globe valve ELEMENT for decentralized automation

- Compact design
- Long service life
- Long service lifeEasy integration of automation units with ELEMENT
- Stainless steel housing with threaded, wclamp or weld connection
- Suitable for 10 bar(g) steam

**Type 8690**

Pneumatic Control Unit

Type 8697

Pneumatic Control Unit



For process valves
with centralized
automation see
CLASSIC Type 20xx

The globe valve Type 2101 is specially optimized for decentralized process automation and fulfills tough criteria for process environments. The design enables the easy integration of automation units whether they are electrical/ optical position feedback, pneumatic control units or an integrated fieldbus interface. Unrivalled cycle life and sealing integrity is guaranteed by the proven self adjusting spindle packing with V-seals.

The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67, NEMA Type 4X protection class and superior chemical resistance.

Technical data

Orifice	DN15 to DN100
Port connections	DIN EN 1092-1, ANSI B16.5, JIS 10K on request
Body material	Cast stainless steel 316L
Nominal pressure	PN25 (Body)
Actuator material	PPS / Stainless steel 1.4561 (316Ti)
Sealing material	PTFE
Medium	Water, alcohol, oils, fuels, hydraulic fluids, salt solution, alkali solutions, organic solvents, steam optional fuel gas (EC Gas Appliances Directive 2009/142/EG)
Viscosity	max. 600 mm ² /s
Spindle packing	PTFE V-rings with spring compensation
Medium temperature	-10 to +185 °C
Ambient temperature	-10 to +60 °C (push-in air ports) -10 to +100 °C (threaded air ports)
Control medium	Neutral gases, air
Max. pilot pressure	max. 10 bar; actuator size 130 mm, 7 bar
Pilot air ports	Push-in connector for external Ø 6 mm or 1/4" tube, thread G 1/8 (on request)
Installation	As required, preferably with actuator in upright position

Content

Valve specifications	System spec. On/Off ELEMENT	Request for quotation
Type 2101	Type 8801-GC	Type 8801-GC
Technical data & ordering info. p. 1-8	Technical data & ordering info. p. 9-16	p. 15



2101
System On/Off
ELEMENT 8801-GC

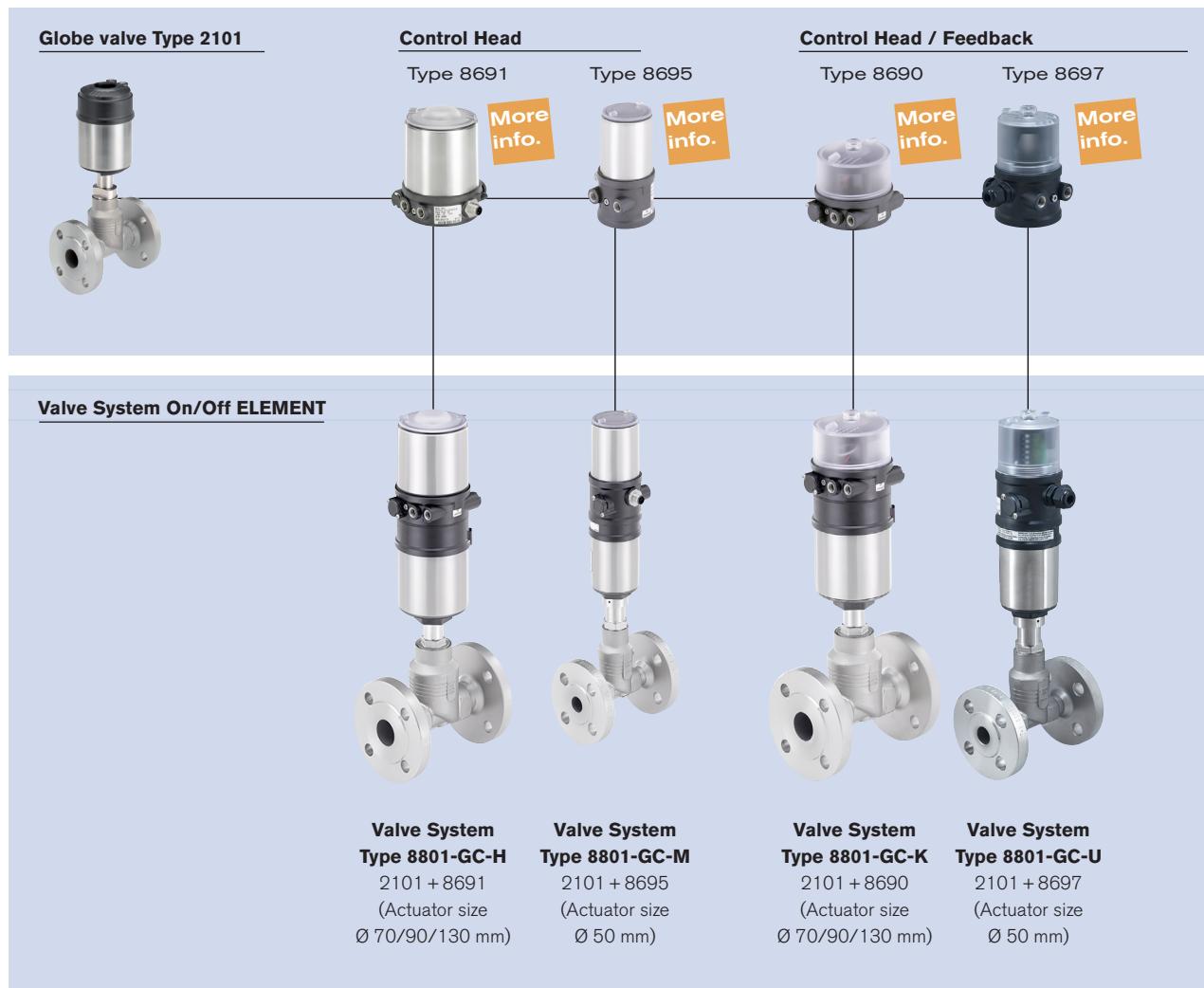
bürkert

Ordering information for decentralized automation of On/Off ELEMENT valve system Type 8801-GC

A decentralized, automated **On/Off ELEMENT valve system Type 8801-GC** consists of a **globe valve Type 2101** and a valve actuation system control head **Type 8691/8695** or a pneumatic control unit **Type 8690/8697** (see separate datasheets).

For the configuration of further valve systems please use the "Request for quotation" on p. 16-17.

You order two components and receive a complete assembled and certified valve.



A detailed description of the control heads and pneumatic control units is on the next page. →

2101
System On/Off
ELEMENT 8801-GC

bürkert

Ordering information for decentralized automation of On/Off ELEMENT valve system Type 8801-GC

Control Head



More info.



More info.

Type 8691

Actuator size Ø 70/90/130 mm

The Control Head Type 8691 / 8695 is optimised for integrated mounting on the 21XX process valve series. The registration of the valve end position is done through a contactless analog position sensor, which automatically recognises and saves the valve end position through the Teach function when starting up. The integrated pilot valve controls single or double-acting actuators. The status of the valve is shown through high power coloured LEDs.

Features

- High power coloured Status-LEDs
- Contactless inductive position sensor
- Pilot valve with manual override
- Teach function for automatic registration of valve positions
- Hygienic stainless steel design
- Easy to clean chemically resistant housing featuring IP65 / IP67, 4X Rating
- AS-Interface or DeviceNet Fieldbus communication

Benefits

- Easy and safe Start-up through Teach function
- Easy process monitoring and error detection through clearly visible high-power coloured LEDs
- High plant availability due to prolonged actuator life boosted by spring chamber ventilation
- Minimised space requirement in the plant piping for more flexibility in plant design

Pneumatic Control Unit / Feedback



More info.



More info.

Type 8690

Actuator size Ø 70/90/130 mm

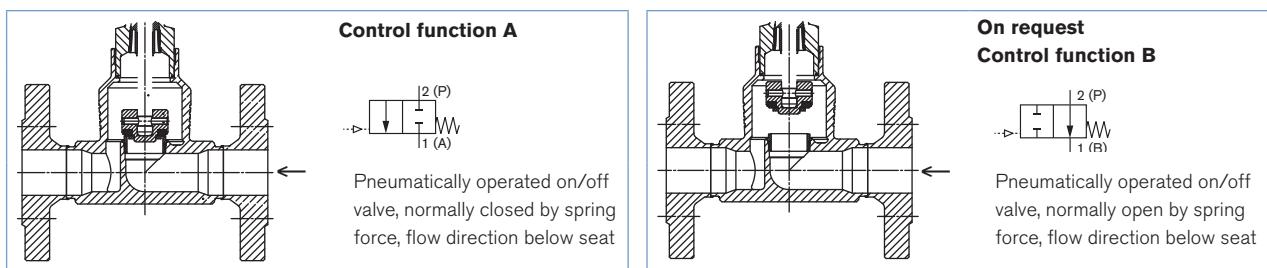
The pneumatic control unit Type 8697/8690 is optimised for integrated mounting on the 21XX process valve series. Mechanical or inductive limit switches register the position of the valve. The integrated pilot valve controls single or double-acting (8690) actuators.

Features

- Visual position indicator
- Mechanical or inductive limit switches for end position registering
- Pilot valve with manual override
- Compact design
- Easy to clean chemically resistant housing featuring IP65 / IP67, 4X Rating
- Optional intrinsically safe version acc. to ATEX / IECEx

Benefits

- Easy and safe Start-up through Teach function (Type 8697)
- High level of signal reliability thanks to self adjusting limit switches
- Minimised space requirement in the plant piping for more flexibility in plant design

Technical data globe valve Type 2101 flow direction below the seat (for gases and liquids)


Orifice [mm]	Actuator size [mm]	K _v value water (m ³ /h)	Minimum pilot pressure CFA [bar]	Operating pressure up to + 185 °C CFA [bar]	On request :CFB [bar]
15	50	4.7	4.8	25	16
	70	4.7	4.8	25	16
20	50	8.1	4.8	16	16
	70	8.1	4.8	20	16
25	50	13	4.8	9	14.5
	70	13	4.8	16	16
32	70	19.5	4.8	8.5	16
	90	19.5	5.0	16	16
40	70	31	4.8	6	16
	90	31	5.0	16	16
50	70	45	-	-	16
	90	45	5.0	10	16
	130	45	5.0	16	-
65	90	73	5.0	5	14
	130	73	5.6	16 (15*)	16 (15*)
80	130	110	5.6	10	11
	100	165	5.6	6	7

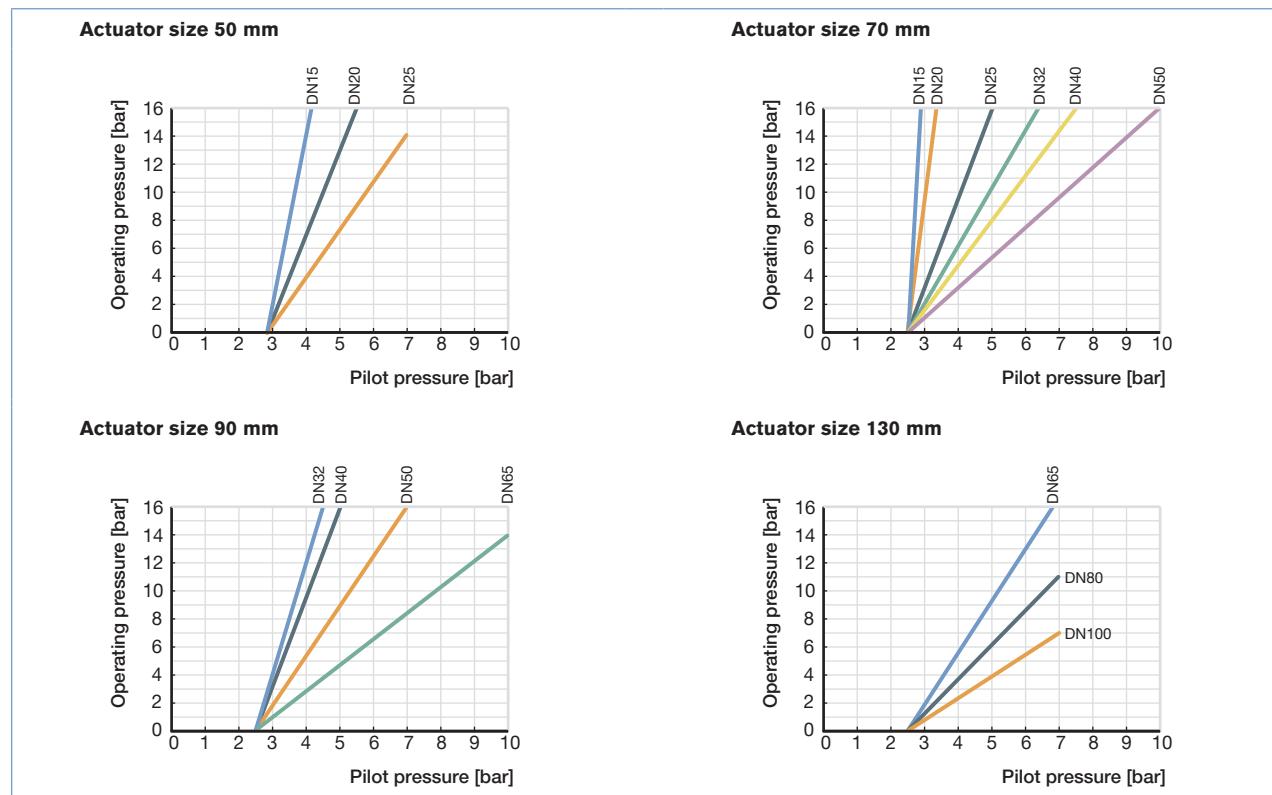
Flow rate: K_v value water [m³/h]: Measured at + 20 °C, 1 bar pressure at valve inlet and free outlet.

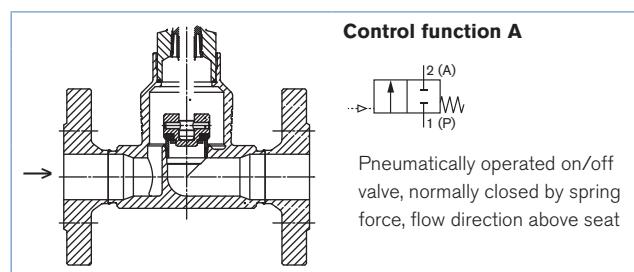
Pressure valves [bar]: Overpressure to the atmospheric pressure

* acc. to the Pressure Equipment Directive 97/23 / EC for compressible fluids in Group 1 (hazardous gases and vapors in accordance with Article 3, Section 1.3, letter a, first dash)

On request control function B

Pressure charts with control function B and flow direction below the seat



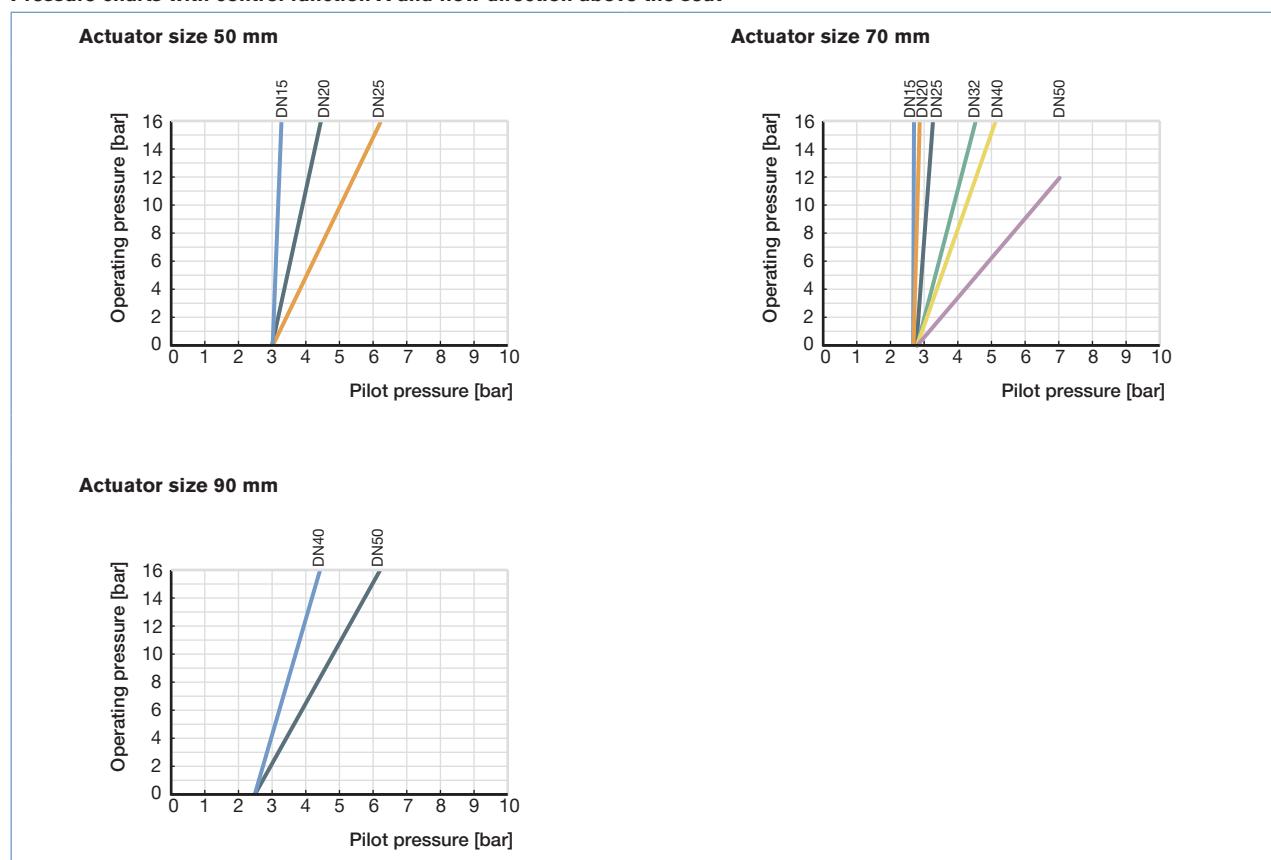
Technical data globe valve Type 2101 flow direction above the seat (for gases and steam)

Attention!

Valves with flow above the seat are only conditionally usable for liquid medium.
There is a danger of waterhammer!

Orifice [mm]	Actuator size [mm]	K _v value water (m ³ /h)	Operating pressure up to + 185 °C CFA [bar]
15	50	4.7	16
	70	4.7	16
20	50	8.1	16
	70	8.1	16
25	50	13	16
	70	13	16
32	70	19.5	16
40	70	31	16
	90	31	16
50	70	45	12
	90	45	16

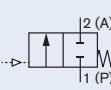
Flow rate: K_v value water [m³/h]: Measured at + 20 °C, 1 bar pressure at valve inlet and free outlet.

Pressure valves [bar]: Overpressure to the atmospheric pressure

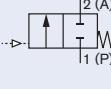
Pressure charts with control function A and flow direction above the seat


Ordering chart Type 2101 flow direction above the seat (for gases and steam)

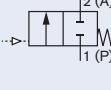
Flange connection acc. to DIN EN 1092-1, flow direction above the seat

Control function	Orifice (mm)	Actuator size Ø [mm]	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.	Article no. certified Teach II 2GD Mechanical
A 2/2 way valve. NC 	15	50	see chart on p. 4	16	203086 ⚡	260145 ⚡
	20	50		16	203087 ⚡	260146 ⚡
	25	50		16	203088 ⚡	260151 ⚡
	32	70		16	203091 ⚡	260153 ⚡
	40	70		16	203092 ⚡	260154 ⚡
	50	70		12	204973 ⚡	260157 ⚡
		90		16	203094 ⚡	260158 ⚡

Flange connection acc. to ANSI B16.5, flow direction above the seat

Control function	Orifice (mm)	Actuator size Ø [mm]	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.
A 2/2 way valve. NC 	15	50	see chart on p. 4	16	203103 ⚡
	20	50		16	203104 ⚡
	25	50		16	203105 ⚡
	40	70		16	203107 ⚡
	50	70		12	204974 ⚡
		90		16	203109 ⚡

Flange connection acc. to JIS 10K, flow direction above the seat

Control function	Orifice (mm)	Actuator size Ø [mm]	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.
A 2/2 way valve. NC 	15	50	see chart on p. 4	16	203123 ⚡
	20	50		16	203124 ⚡
	25	50		16	203125 ⚡
	40	70		16	203127 ⚡
	50	70		12	204975 ⚡
		90		16	203129 ⚡

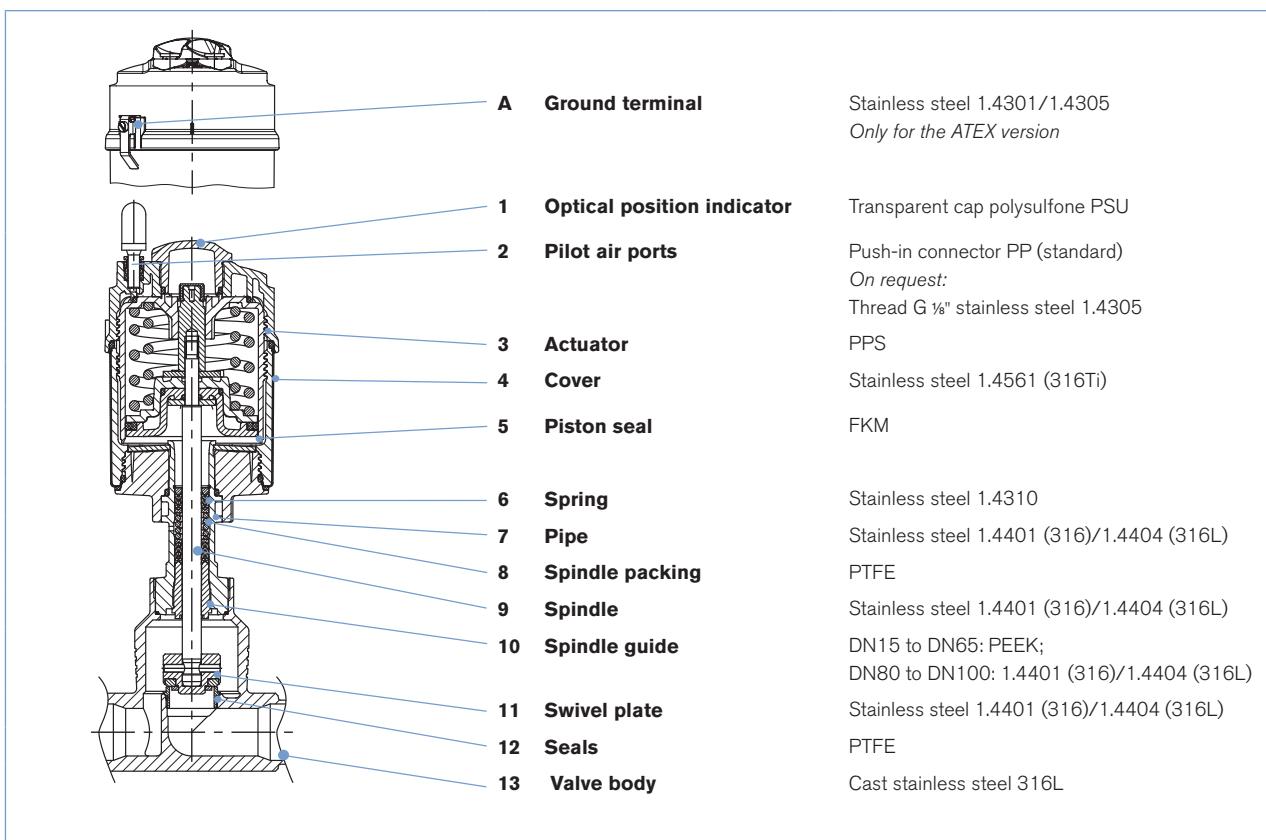
i Further versions on request
 **Control function**

B (normally open) and I (double-acting)

 **Port connection**

Welded and threaded ports

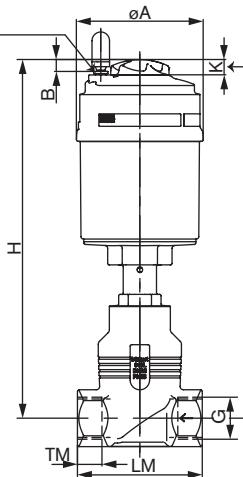
Materials globe valve Type 2101



Lubricants for spindle packing and actuator are classified according NSF H1

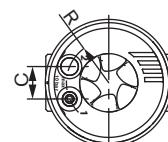
Dimensions globe valve Type 2101 [mm], continued**Threaded body**

Hose connection for
6/4 mm plastic tube or
G 1/8" connection



To determine the base measurements
for the mounting version

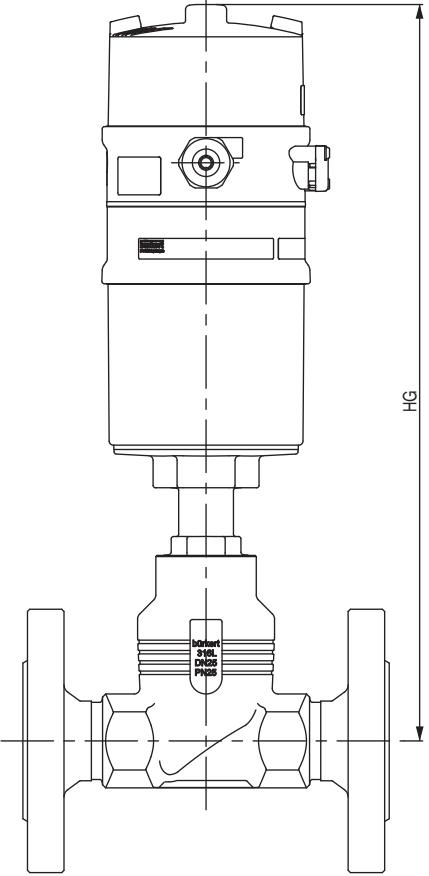
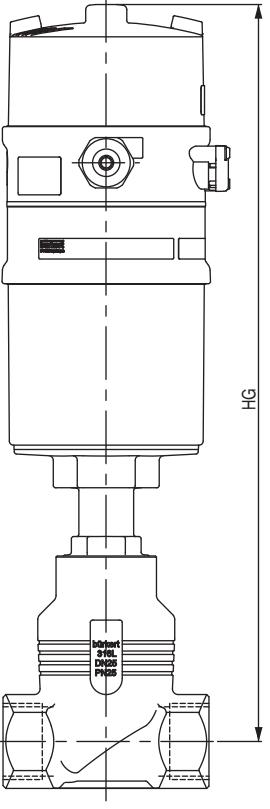
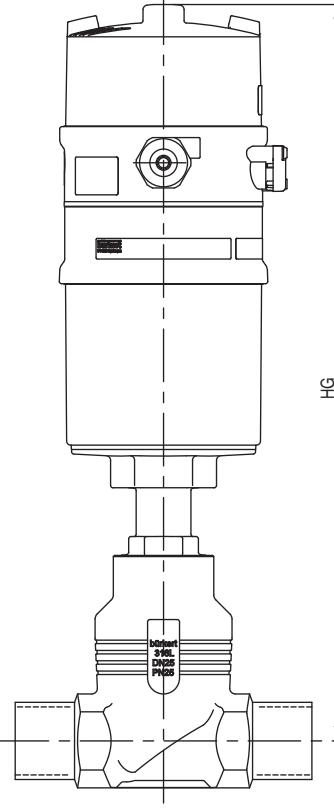
Actuator size (\emptyset)	K
D (50)	9.7
M (70)	11
N (90)	11
P (130)	11



Orifice	Actuator size	All bodies						G		NPT		Rc	
		ØA	B	C	R	H	LM	G	TM	G	TM	G	TM
15	50	64.5	6	19.8	19.8	236	65	G 1/8"	12	NPT 1/8"	10.3	Rc 1/8"	10.1
	70	91	8.5	23.3	30.5	250							
15	50	64.5	6	19.8	19.8	236	65	G 1/2"	14	NPT 1/2"	13.7	Rc 1/2"	13.2
	70	91	8.5	23.3	30.5	250							
20	50	64.5	6	19.8	19.8	242	75	G 3/8"	16	NPT 3/8"	14	Rc 3/8"	14.5
	70	91	8.5	23.3	30.5	256							
25	50	64.5	6	19.8	19.8	245	90	G 1"	18	NPT 1"	16.8	Rc 1"	16.8
	70	91	8.5	23.3	30.5	259							
32	70	91	8.5	23.3	30.5	280	110	G 1 1/4	20	NPT 1 1/4	17.3	Rc 1 1/4"	19.1
	90	120	8.5	23.3	30.5	340							
40	70	91	8.5	23.3	30.5	285	120	G 1 1/2	22	NPT 1 1/2	17.3	Rc 1 1/2"	19.1
	90	120	8.5	23.3	30.5	345							
	130	159	8.5	23.3	30.5	397							
50	70	91	8.5	23.3	30.5	295	150	G 2"	24	NPT 2"	17.6	Rc 2"	23.4
	90	120	8.5	23.3	30.5	351							
	130	159	8.5	23.3	30.5	403							
65	90	120	8.5	23.3	30.5	379	185	G 2 1/2	26	NPT 2 1/2	23.7	Rc 2 1/2"	26.7
	130	159	8.5	23.3	30.5	432							

Dimensions for valve system On/Off ELEMENT Type 8801-GC [mm]

Dimensions valve system On/Off ELEMENT Type 8801-GC-K (with pneumatic control unit Type 8690)

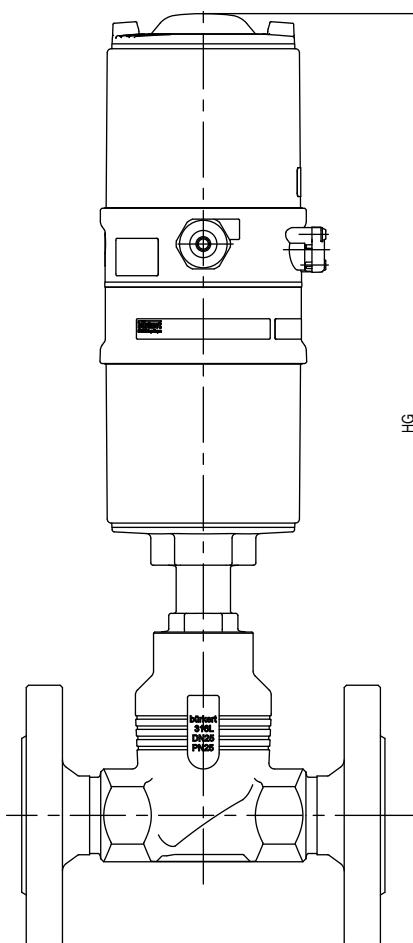
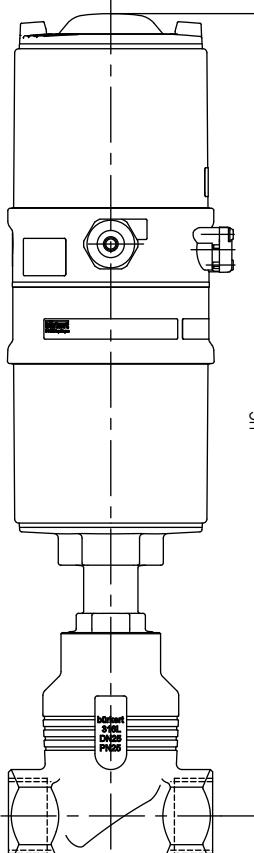
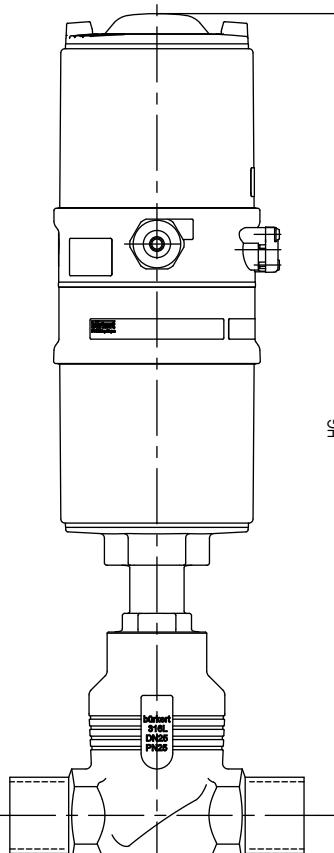
Flanged body		Threaded body		Weld end body	
	HG		HG		HG
	HG		HG		HG

Orifice [mm]	Actuator size	HG
15	70	313
15	90	313
20	70	319
25	70	322
32	70	343
	90	403
40	70	348
	90	408
	130	460
50	70	358
	90	414
	130	466
65	90	442
	130	495
80	130	528
100	130	528

Further dimensions see p. 7, 8 and 9

Dimensions for valve system On/Off ELEMENT Type 8801-GC [mm]

Dimensions valve system On/Off ELEMENT Type 8801-GC-H (with control head Type 8691)

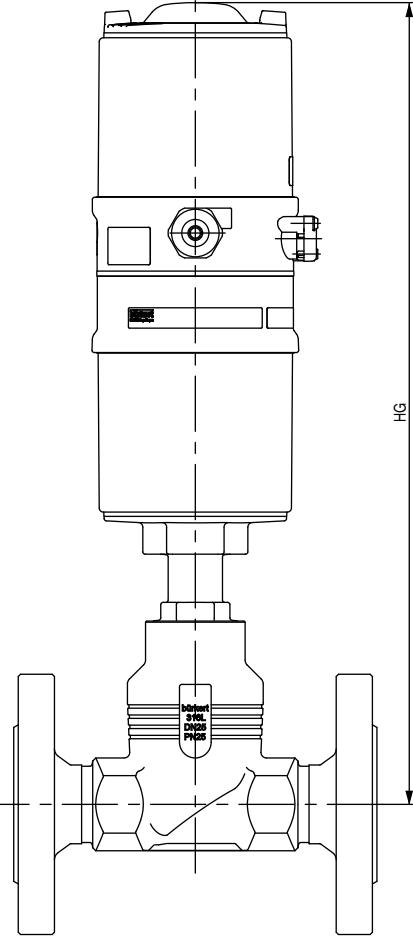
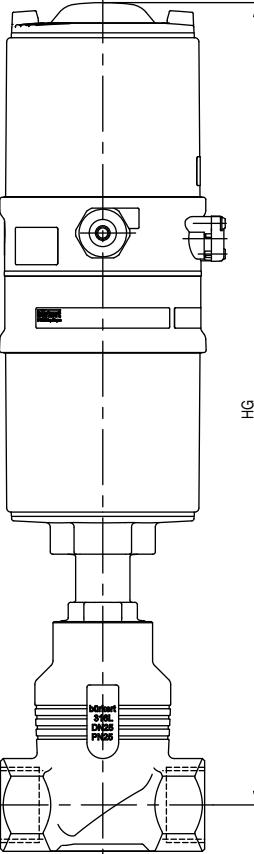
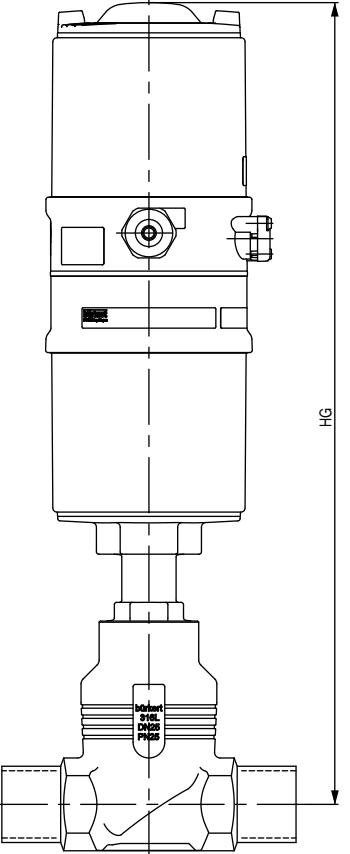
Flanged body		Threaded body		Weld end body	
	HG		HG		HG

Orifice [mm]	Actuator size	HG
[inch]		
15	-	346
15	1/2"	346
20	3/4"	352
25	1"	355
32	-	376
	90	436
40	1 1/2"	381
	90	441
	130	493
50	2"	391
	90	447
	130	499
65	2 1/2"	475
	130	528
80	3"	561
100	4"	571

Further dimensions see p. 7, 8 and 9

Dimensions for valve system On/Off ELEMENT Type 8801-GC [mm]

Dimensions valve system On/Off ELEMENT Type 8801-GC-M (with control head Type 8695)

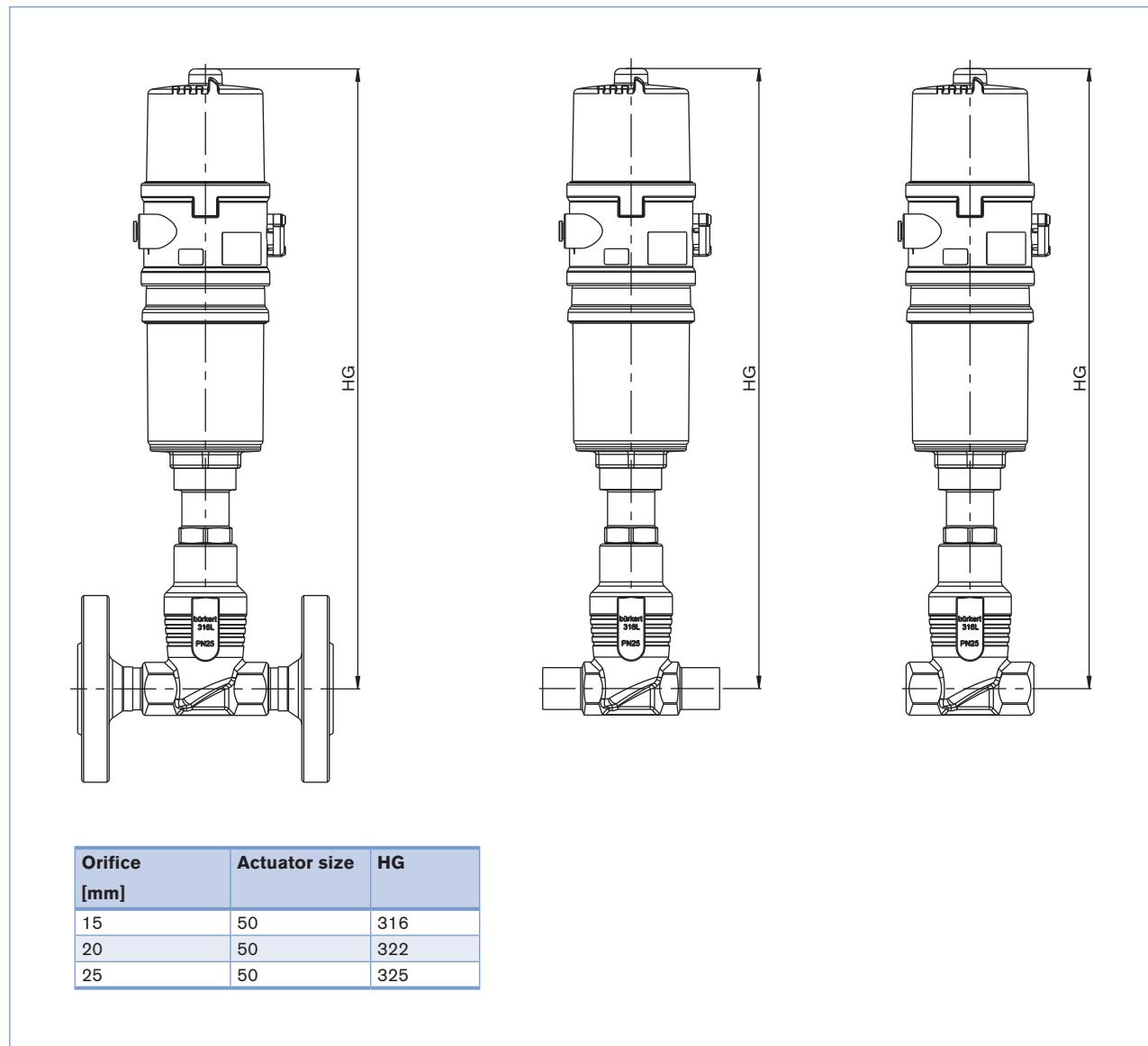
Flanged body	Threaded body	Weld end body
		

Orifice [mm]	Actuator size	HG
15	-	329
15	1/2"	329
20	3/4"	335
25	1"	342

Further dimensions see p. 7, 8 and 9

Dimensions for valve system On/Off ELEMENT Type 8801-GC [mm]

Dimensions valve system On/Off ELEMENT Type 8801-GC-U (with control head Type 8697)



Orifice [mm]	Actuator size	HG
15	50	316
20	50	322
25	50	325

Note
 You can fill out
 the fields directly
 in the PDF file
 before printing
 out the form.

Valve system On/Off ELEMENT Type 8801-GC – request for quotation

► Please fill out and send to your nearest Bürkert facility* with your inquiry or order

Company	Contact person
Customer no.	Department
Address	Tel./Fax
Postcode/town	E-Mail

= mandatory fields to fill out

Quantity

Required delivery date

Operating data

Pipe line

DN

PN

Pipe material

Process medium

Type of media

Liquid

Steam

Gas

Valve features

Seal material

PTFE

NBR

Other

Nominal pressure

PN

Orifice

DN

Type of connection

Flanged

Threaded

Welded

Clamp

Standard connection

ISO

DIN

Other

Control function

NC¹⁾

NO¹⁾

Double-acting

Pilot pressure

min.

max.

Atex II 2GD Mechanical

¹⁾NC: normally closed by spring action; NO: normally open by spring action

Please specify item no. (if known):

Continued on next page →

Valve system On/Off ELEMENT Type 8801-GC – request for quotation, continued

Automation unit features

Click on the orange box "More info" ... you will come to our website for the resp. product where you can download the data sheet.

Control Head		Pneumatic Control Unit / Feedback		
<input type="checkbox"/> Type 8691 For actuator size Ø 70/90/130 mm	More info.	<input type="checkbox"/> Type 8695 For actuator size Ø 50 mm	More info.	<input type="checkbox"/> Type 8690 For actuator size Ø 70/90/130 mm
				
<ul style="list-style-type: none"> ▪ Inductive position sensor with automatic Teach function ▪ Coloured high power LEDs ▪ With/without pilot valve for single or double-acting actuators ▪ Fieldbus communication ▪ Hygienic stainless steel design 				<ul style="list-style-type: none"> ▪ visual status indicator ▪ Micro- or proximity switches for end position feedback ▪ With/ without pilot valve for single or double-acting actuators ▪ Optional intrinsically safe version acc. to ATEX / IECEx
Pneumatic function		Electrical connection		Pneumatic function
<input type="checkbox"/> Single-acting <input type="checkbox"/> Double-acting <input type="checkbox"/> Without pilot valve		<input type="checkbox"/> Cable gland <input type="checkbox"/> M12 connector		<input type="checkbox"/> Single-acting <input type="checkbox"/> Double-acting (only with 8690) <input type="checkbox"/> Without pilot valve
Communication		Approvals		Number of Position feedback switches
<input type="checkbox"/> AS-Interface <input type="checkbox"/> DeviceNet <input type="checkbox"/> without		<input type="checkbox"/> ATEX cat. 3GD, IECEx <input type="checkbox"/> without		<input type="checkbox"/> 1x <input type="checkbox"/> 2x
				Position feedback switches
				<input type="checkbox"/> Micro-switch 24 V DC <input type="checkbox"/> Micro-switch 50 – 225 V DC/AC (only 8697) <input type="checkbox"/> Inductive switch 3-wire PNP <input type="checkbox"/> Inductive switch 2-wire NAMUR <input type="checkbox"/> Inductive switch 2-wire 24 V DC <input type="checkbox"/> without
				Electrical connection
				<input type="checkbox"/> Cable gland <input type="checkbox"/> M12 connector
				Approvals
				<input type="checkbox"/> ATEX cat. 3GD, IECEx <input type="checkbox"/> ATEX cat. 2DG, IECEx <input type="checkbox"/> without

Certifications

- Attestation of compliance with the order EN-ISO 10204 2.1 (Article no. 440788)
- Test report EN-ISO 10204 2.2 (Article no. 803722)
- Certification of Conformity for Raw Material EN-ISO 10204 3.1 (Included in delivery)
- EN161 (European Gas Device guideline)
- FDA and USP compliance

Comment /sketch

To find your nearest Bürkert facility, click on the orange box → www.burkert.com